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<p>(21) International Application Number: PCT/US95/02893</p> <p>(22) International Filing Date: 2 March 1995 (02.03.95)</p> <p>(30) Priority Data: 9404417.9 8 March 1994 (08.03.94) GB</p> <p>(71) Applicant (for all designated States except US): MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): BASTOW, David, R. [GB/GB]; 2 Warwicke Road, Tamworth, Staffordshire B77 3EU (GB).</p> <p>(74) Agents: HEUBSCH, William, L. et al.; Office of Intellectual Property Counsel, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).</p>		<p>(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).</p> <p>Published With international search report.</p>
<p>(54) Title: MASKING METHOD</p> <div> </div> <p>(57) Abstract</p> <p>The "B" post of an automobile between its front and rear doors is masked before the vehicle is painted by (1) providing a resiliently conformable strip of masking material having a width greater than the maximum distance between the trailing edge of the front door adjacent the "B" post and the leading edge of the rear door adjacent the "B" post and a length at least equal to the length of those edges along the "B" post to be masked, which strip has pressure sensitive adhesive on a surface adjacent a longitudinal edge of the strip; (2) opening the front door; (3) applying the strip to the inner surface of the leading edge of the rear door so that the pressure sensitive adhesive securely adheres the strip to conform with the profile of the leading edge and the strip extends across the "B" post to an extent sufficient to overlap with the trailing edge of the front door when said front door is closed; and (4) closing the front door to abut the overlap and thereby mask the "B" post.</p>		

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MASKING METHOD

This invention relates to a method of masking a vehicle during spray
5 painting and in particular to a method of masking the "B" post of a vehicle.

The "B" post of a vehicle is the pillar situated between the rear edges of the front door and leading edge of the rear door of a vehicle. The "B" post often supports the hinges of the rear door and the fastening catch for the front door. When re-spraying door panels it is necessary to mask the "B" post in such a way as
10 to prevent overspray going through the gap between the front and rear doors. This is a difficult area to mask since the "B" post is often irregularly shaped and dirty and will not readily accept conventional masking materials having pressure sensitive adhesive. Also, the door panels are generally spaced some distance from the "B" post and it is not possible to rely upon the door holding masking material in place
15 by compressing the material against the "B" post with the edge of the door.

The present invention provides a simple, effective technique for masking "B" posts.

Therefore according to the present invention there is provided a method of masking a vehicle "B" post comprising the steps of:

20 providing a resiliently conformable strip of masking material having a width greater than the maximum distance between the trailing edge of the front door adjacent the "B" post and the leading edge of the rear door adjacent the "B" post and a length at least equal to the length of the "B" post to be masked, the strip having pressure sensitive adhesive on a surface adjacent a longitudinal edge of the
25 strip,

opening said front door,

applying said strip to the inner surface of the leading edge of the rear door so that the pressure sensitive adhesive securely adheres the strip to conform with the profile of the leading edge and the strip extends across the "B" post to an extent
30 sufficient to overlap with the trailing edge of the front door when said front door is closed, and

closing the front door to abut said overlap thereby masking the "B" post.

It has been found that by selecting a resiliently conformable masking material e.g. foam strip, thick paper scrim, non-woven material etc., it is readily possible to adhere the masking material to the inner surface of the leading edge of the rear door by pressure sensitive adhesive so that the masking material projects across the "B" post and will maintain this configuration. The front door is closed over the overlapping portion of the masking material. The masking material is sufficiently stiff not to be displaced by the pressure of the paint spray thereby effectively masking the "B" post and preventing ingress of overspray inside the doors.

The masking material is generally has a stripe of pressure sensitive adhesive of from 8 to 12mm wide adjacent one longitudinal edge, normally within 2mm of the edge. In one embodiment the strip may have a second adhesive strip adjacent the other longitudinal edge for adhering to the inside of the trailing edge of the front door. The additional adhesive strip may have a width of from 8 to 12mm and is normally positioned with 2mm of the other edge.

The masking strip may conveniently be provided in the form of a roll wound upon itself, optionally about a core. Therefore according to a further aspect of the invention there is provided a roll of masking material comprising a foam strip wound upon itself, the foam strip having a width of from 20 to 40cm, a thickness of from 10 to 20mm and pressure sensitive adhesive on a major surface adjacent a longitudinal edge. The masking material may conveniently be formed from foam web by the process disclosed in EP 0384626 (the content whereof is incorporated herein by reference).

The strips may be formed in a parallel array each strip being separable. Therefore according to a further aspect of the invention there is provided a roll of masking material comprising a parallel array of foam strips conjoined and manually separable, each foam strip having a width of from 20 to 40cm, a thickness of from 10 to 20mm and pressure sensitive adhesive on a major surface adjacent a longitudinal edge. The array may be formed by applying an adhesive to a foam web and slitting the web. Alternatively, the array may be formed in accordance with EP

0384626, which results in an array in which the strips have an elliptical or oval cross-section and adjacent strips are joined by longitudinal welded seams that maintain the curvature of the strips.

The invention will now be described with reference to the accompanying drawings in which:

Figure 1 represents an end view of the rear door of a vehicle and associated end post,

Figures 2(a), (b) and (c) represent cross-sections through A-A, B-B and C-C of Figure 1,

Figure 3 represents a cross-section through a "B" post and front and rear doors showing the masking in accordance with the invention, and

Figure 4 represents a partial side view of a vehicle showing the front and rear doors.

Referring to Figures 1 and 2, the "B" post (2) supports the rear door (4) which is mounted by hinges (6). The upper portion of the door (8) adjacent the window is adjacent the "B" post (2) whilst the lower panel (10) of the door extends away from the "B" post such that there is a significant gap between the "B" post and the edge of the door panel (10).

Figures 3 and 4 show the masking material (12) in position masking the "B" post (2). The front door (14) is opened and the masking strip (12) is positioned between the "B" post (2) and the edge of the rear door (4) such that the strip of adhesive (16) is adhered to the edge of the door, particularly in the region of the bottom panel (10). If necessary, the rear door (4) can be opened to facilitate positioning of the masking strip (12). The masking strip (12) will follow the contour of the rear door (4) which is identical to that of the edge (18) of the front door (14). Thus, when the front door is closed the edge (18) will abut the masking strip (12) thereby completing a seal. In one embodiment, the masking strip will include a strip of pressure sensitive adhesive in the region of contact with the edge (18) of the front door (14). The masking material is sufficiently resilient to maintain its position around the contour of the lower panel (10) during the paint spraying

operation thereby preventing ingress of paint to the "B" post and interior of the vehicle.

CLAIMS

1. A method of masking a vehicle "B" post comprising the steps of:
providing a resiliently conformable strip of masking material having a width
5 greater than the maximum distance between the trailing edge of the front door
adjacent the "B" post and the leading edge of the rear door adjacent the "B" post
and a length at least equal to the length of the "B" post to be masked, the strip
having pressure sensitive adhesive on a surface adjacent a longitudinal edge of the
strip,
10 opening said front door,
applying said strip to the inner surface of the leading edge of the rear door
so that the pressure sensitive adhesive securely adheres the strip to conform with
the profile of the leading edge and the strip extends across the "B" post to an extent
sufficient to overlap with the trailing edge of the front door when said front door is
15 closed, and
closing the front door to abut said overlap thereby masking the "B" post.
2. A method as claimed in Claim 1 in which said strip has a width in the range
20 to 40mm.
3. A method as claimed in Claim 2 in which said strip has a width of about
26mm.
4. A method as claimed in any one of Claims 1 to 3 in which the pressure
25 sensitive adhesive is in the form of a stripe having a width of from 8 to 12mm.
5. A method as claimed in any preceding Claim in which the strip additionally
comprises pressure sensitive adhesive in the region of the overlap with the trailing
edge of the front door.

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6. A method as claimed in Claim 5 in which said pressure sensitive adhesive is in the form of a stripe having a width of from 8 to 12mm adjacent the other longitudinal edge.
- 5 7. A method as claimed in any preceding Claim in which the masking material is polymeric foam.
8. A method as claimed in Claim 7 in which the foam has a thickness of from 10 to 20mm.
- 10 9. A method as claimed in Claim 8 in which the foam has a rectangular, oval or elliptical cross-section.
- 15 10. A method as claimed in any one of Claims 7 to 9 in which the foam is a polyester polyurethane foam.
11. A method as claimed in Claim 1 substantially as herein described with reference to the accompanying drawings.
- 20 12. A length of masking material adapted for masking a "B" post of an automobile, said length of masking material comprising an elongate foam strip having a longitudinally extending major surface and longitudinally extending edges on opposite sides of said major surface, said major surface having a width of from 20 to 40cm between said edges, said foam strip having a thickness normal to said
- 25 major surface of at least 10mm, and said length of masking material including a longitudinally extending layer of pressure sensitive adhesive on said major surface adjacent one of said edges.
- 30 13. A roll of masking material comprising a foam strip wound upon itself, the foam strip having a width of from 20 to 40cm, a thickness of from 10 to 20mm and pressure sensitive adhesive on a major surface adjacent a longitudinal edge.

14. A roll of masking material comprising a parallel array of foam strips conjoined and manually separable, each foam strips conjoined and manually separable, each foam strip having a width of from 20 to 40cm, a thickness of from 10 to 20mm and pressure sensitive adhesive on a major surface adjacent a longitudinal edge.
15. Masking material as claimed in any one of Claims 12 to 14 in which each foam strip has a rectangular, elliptical or oval cross-section.
16. Masking material as claimed in Claim 15 in which the strips have an elliptical or oval cross-section and adjacent strips are joined by longitudinal welded seams that maintain the curvature of the strips.
17. Masking material as claimed in any one of Claims 12 to 16 in which said strip has a width of about 26mm.
18. Masking material as claimed in any one of Claims 12 to 17 in which the pressure sensitive adhesive is in the form of a stripe having a width of from 8 to 12mm.
19. Masking material as claimed in any one of Claims 12 to 18 in which each strip comprises pressure sensitive adhesive on said major surface adjacent the other longitudinal edge.
20. Masking material as claimed in Claim 19 in which said pressure sensitive adhesive is in the form of a stripe having a width of from 8 to 12mm adjacent the other longitudinal edge.
21. Masking material as claimed in any one of Claims 12 to 14 substantially as herein described.

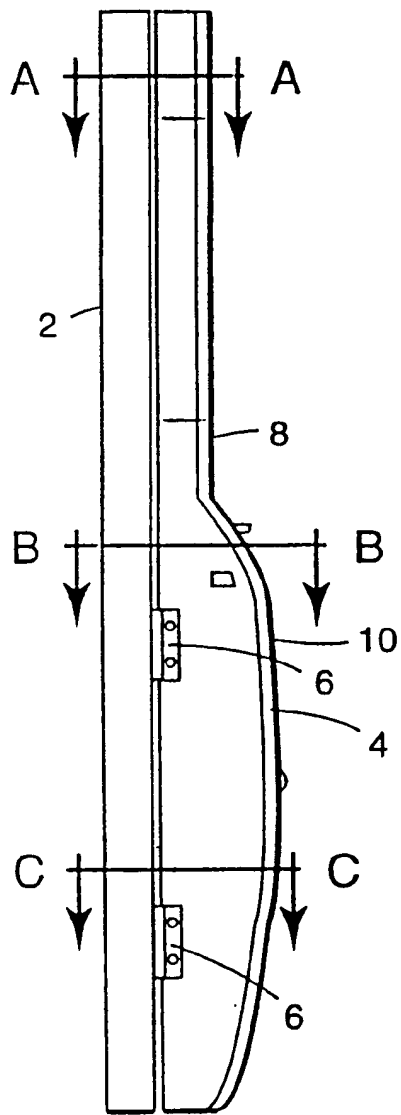


Fig.1

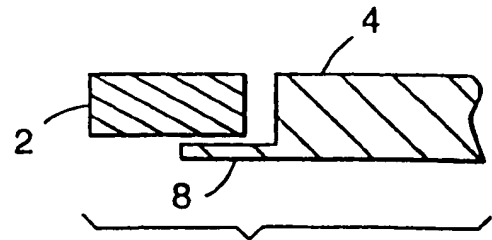


Fig.2a

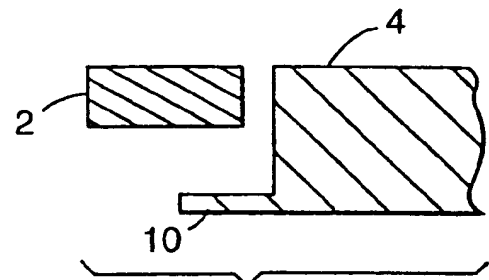


Fig.2b

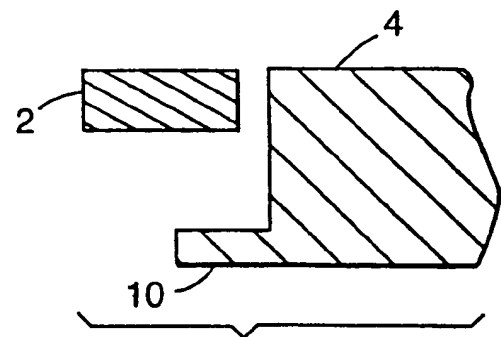


Fig.2c

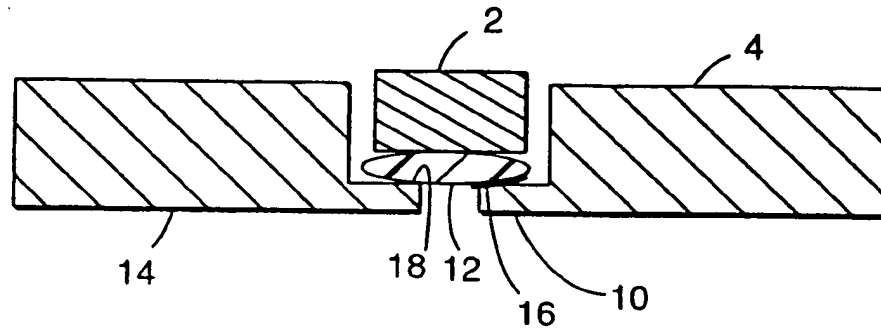


Fig.3

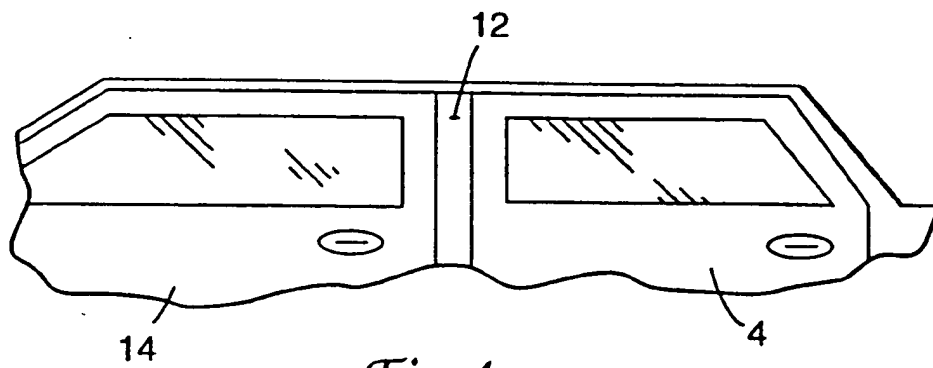


Fig.4

INTERNATIONAL SEARCH REPORT

Internal Application No

PCT/JS 95/02893

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 B05B15/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 15 no. 145 (C-0823), 12 April 1991 & JP, A, 03 026379 (HONDA) see abstract ---	1, 5
A	EP-A-0 384 626 (MINNESOTA MINING AND MANUFACTURING COMPANY) 29 August 1990 cited in the application see the whole document -----	12, 14

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-384626	29-08-90	CA-A- 2009721	20-08-90
		DE-U- 9007753	23-03-95
		DE-U- 9007759	23-03-95
		DE-D- 69018854	01-06-95
		US-A- 4996092	26-02-91
